

Claims

What is claimed is:

1. A spark ignited engine; said engine comprising:
a block having a top surface and a cylindrical bore therein;
a piston being movably positioned in said cylindrical bore;
a cylinder head having a bottom surface and being attached to said block;
a combustion chamber being defined by said cylindrical bore, said piston and said bottom surface of said cylinder head;
a spark plug having an electrode, a plug shell, a tip and orifice portion defining a bottom part, and an insulator, a portion of said spark plug being positioned in said cylinder head;
said spark plug being of an encapsulated configuration defining an ignition chamber having a cocoon configuration; and
said ignition chamber of said spark plug being substantially positioned within said combustion chamber substantially external of said cylinder head.
2. The spark ignited engine as defined in claim 1 wherein said bottom part of said tip and orifice portion defines a parabolic end.
3. The spark ignited engine as defined in claim 1 wherein said ignition chamber defines a backside portion and a front side portion.
4. The spark ignited engine as defined in claim 1 wherein said ignition chamber has at least a single orifice exiting therefrom into said combustion chamber.

5. The spark ignited engine as defined in claim 4 wherein said single orifice is positioned about an axis, said axis being aligned with an axis of said combustion chamber.

6. The spark ignited engine as defined in claim 1 wherein said ignition chamber has a plurality of orifices exiting therefrom into said combustion chamber.

7. The spark ignited engine as defined in claim 6 wherein said plurality of orifices are position about an axis, said axis being aligned with an axis of said combustion chamber.

8. The spark ignited engine as defined in claim 1 wherein said ignition chamber defines a backside portion and a front side portion and a portion of said plurality of orifices exit said backside portion into said combustion chamber.

9. The spark ignited engine as defined in claim 8 wherein another portion of said plurality of orifices exits said front side portion into said combustion chamber.

10. The spark ignited engine as defined in claim 1 wherein said electrode includes a pin portion being attached in a preestablished axial position.

11. The spark ignited engine as defined in claim 10 wherein said cocoon configuration has a parabolic end having an inside surface and having a plate member attached thereto, said plate member defining a perimeter being spaced from said inside surface and defining a gap.

12. The spark ignited engine as defined in claim 11 wherein said perimeter of said plate member having a cylindrical configuration.

13. The spark ignited engine as defined in claim 11 wherein said perimeter of said plate member defining a plurality of tip portions.

14. The spark ignited engine as defined in claim 13 wherein said plurality of tip portions define a serrated configuration.

15. The spark ignited engine as defined in claim 13 wherein said plurality of tip portions define a tapered configuration.

16. A spark plug comprising:
an electrode being an electrical conductor and having a heat resistance;
an insulator being operatively positioned about the electrode and maintaining structural integrity in a high temperature environment;
a plug shell being operatively connected to the electrode and having an insulator region, a connection region and a tip and orifice portion, said tip and orifice portion having an ignition chamber therein defining a cocoon configuration; and
said ignition chamber of said spark plug being substantially positioned within said combustion chamber substantially external of said cylinder head.

17. The spark plug as defined in claim 16 wherein said bottom portion of said tip and orifice portion defines a parabolic end.

18. The spark plug as defined in claim 16 wherein said ignition chamber defines a back side portion and a front side portion.

19. The spark plug as defined in claim 16 wherein said ignition chamber has at least a single orifice exiting therefrom.

20. The spark plug as defined in claim 19 wherein said opening is positioned about an axis.

21. The spark plug as defined in claim 16 wherein said ignition chamber has a plurality of orifices exiting therefrom.

22. The spark plug as defined in claim 16 wherein said ignition chamber defines a back side portion and a front side portion and a portion of said plurality of orifices exit said backside portion.

23. The spark plug as defined in claim 22 wherein another portion of said plurality of orifices exit said front side portion.

24. The spark plug as defined in claim 16 wherein said electrode includes a pin portion being attached in a preestablished axial position.

25. The spark ignited engine as defined in claim 16 wherein said cocoon configuration has a parabolic end having an inside surface and having a plate member attached thereto, said plate member defining a perimeter being spaced from said inside surface and defining a gap.

26. The spark ignited engine as defined in claim 25 wherein said perimeter of said plate member having a cylindrical configuration.

27. The spark ignited engine as defined in claim 25 wherein said perimeter of said plate member defining a plurality of tip portions.

28. The spark ignited engine as defined in claim 25 wherein said plurality of tip portions define a serrated configuration.

29. The spark ignited engine as defined in claim 25 wherein said plurality of tip portions define a tapered configuration.